APPENDIX E - MITIGATION COMMITMENTS

This appendix summarizes mitigation measures for the Preferred Alternative. These mitigation commitments reflect comments received from the public, as well as state and federal review agencies on the Draft EIS, and as a result of two public hearings. Agency coordination will continue throughout the subsequent project phases. Throughout the project, one or more UDOT-Certified Environmental Control Supervisors (ECS) will ensure that appropriate permit conditions and mitigation commitments are met. .

E.1 Land Use

Since no adverse impacts to land use were identified, no mitigation is proposed.

E.2 Social, Demographics and Community Cohesion

A maintenance of traffic (MOT) plan, emergency services plan, a proactive public information program and a media relations plan will be developed and implemented to keep travelers and businesses advised.

To improve community cohesion, the final design of each I-15 interchange will provide for east/west pedestrian/bicycle access across I-15. The type of facility will be determined during design and may be a multi-use sidewalk, a sidewalk for pedestrians, and/or on-street lane for bicyclists. Although MPO and local plans do not show I-15 crossings at each I-15 interchange, it is reasonable to provide for a connection across I-15 to facilitate east-west movement and to increase connections between communities. The provision of these connections is consistent with UDOT policy with regard to Context Sensitive Solutions (CSS).

E.3 Environmental Justice

Since no disproportionate adverse impacts to Environmental Justice populations were identified, no mitigation is proposed.

E.4 Relocations

Where potential building displacements will occur as a result of parcel acquisitions, compensation will be provided to affected property owners. Compensation for parcel acquisitions, including buildings and structures will be provided at fair market value. In providing compensation, the proposed project will comply with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and the Utah Relocation Assistance Act (Utah Code Section 57-12). These regulations require that relocation services will be provided to all affected property owners without discrimination.

Under state and federal regulations, no person is required to move from their residence unless comparable replacement property is available for sale or rent within the potentially displaced person's financial capabilities. The location and sale or rent price of the comparable property must be made available in writing to the affected persons. In the event that replacement housing may not be available within the local resident's financial capabilities, several alternative solutions may be used. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended states the following:

> Section 206 (a) If a program or project undertaken by a Federal agency or with Federal financial assistance cannot proceed on a timely basis because comparable replacement dwellings are not available, and the head of the displacing agency determines that such dwellings cannot otherwise be made available, the head of the displacing agency may take such action as is necessary or appropriate to provide such dwellings by use of funds authorized for such project. The head of the displacing agency may use this section to exceed

the maximum amounts which may be paid under sections 203 and 204 on a case-by-case basis for good cause as determined in accordance with such regulations as the head of the lead agency shall issue.

(b) No person shall be required to move from his dwelling on account of any program or project undertaken by a Federal agency or with Federal financial assistance; unless the head of the displacing agency is satisfied that comparable replacement housing is available to such person.

Options under this provision may include the following:

- Purchasing housing for the displaced person and renting or selling the acquired dwelling at a price within the person's financial means;
- Renovating existing housing;
- Providing financing for the homeowner occupants with low incomes and/or poor credit ratings who have occupied their home for at least 180 days; and
- Entering into partnerships with public or private agencies that provide housing for low-income persons.

UDOT will work with affected property owners to ensure that appropriate replacement housing opportunities are made available to all potentially displaced residents within the proposed project corridor.

E.5 Farmland

No adverse impacts were identified under the Preferred Alternative, so mitigation is not proposed.

E.6 Economics

No adverse impacts were identified under the Preferred Alternative, so mitigation is not proposed.

E.7 Noise

Section 3.7.4 discusses possible mitigation for noise impacts. Where sound walls are considered prudent and feasible (See section 3.7.4), results of balloting will determine if sound barriers will be built. The complete UDOT Noise Policy is available on the UDOT website.

Construction activities will generate noise during the construction period and will impact the receptors described in Section 3.7. To reduce construction noise at nearby receptors, the following mitigation measures will be incorporated into construction plans and contractor specifications:

- Equipping construction equipment engines with mufflers, intake silencers, and engine enclosures.
- Turning off construction equipment during prolonged periods of nonuse to eliminate noise from construction equipment during those periods.

During the design/construction phase, UDOT will work with the affected cities to establish appropriate limitations that balance construction schedule and construction noise.

E.8 Air Quality

The analysis presented in Section 3.8 does not indicate that significant air quality impacts will result from implementing the Preferred Alternative. Therefore, no air quality mitigation measures (other than compliance with applicable regulations) are warranted. To minimize fugitive dust during construction activities, as required by UDAQ Rule 307-309 (Fugitive Emissions and Fugitive Dust), the UDOT Specification Section 01572, (Dust Control and Watering) will be included in the project construction plans and design specifications. The contractor will also adhere to any local ordinances, if applicable.

E.9 Visual

UDOT will apply their Context Sensitive Solutions principles and process to develop appropriate and sustainable landscape treatments and incorporate appropriate aesthetic treatments for the highway design elements, including interchanges, noise barriers, retaining walls, and structures. The visual impact of these structural elements will be mitigated by incorporating architectural design elements that reflect local community or regional characteristics.

In addition to replacing the CSS elements lost with the modifications and/or reconstruction of the University Avenue, University Parkway and Pleasant Grove interchanges, the design of all other reconstructed and new interchanges will follow the CSS principles and process.

Visual impacts will also be mitigated through the use of landscaping to replace natural vegetation and existing freeway landscaping that will be removed as part of the Preferred Alternative.

E.10 Pedestrian and Bicycle Transportation

The final design of each I-15 interchange will provide for east/west pedestrian/bicycle access across I-15. The type of facility will be determined during design and may be a multi-use sidewalk, a sidewalk for pedestrians, and/or on-street lane for bicyclists. Although MPO and local plans do not show I-15 crossings at each I-15 interchange, it is reasonable to provide for a connection across I-15 to facilitate east-west movement and to increase connections between communities. The provision of these connections is consistent with UDOT policy with regard to Context Sensitive Solutions (CSS).

E.11 Hazardous Materials

For the two sites observed during the site reconnaissance, Site 1 - Payson Diesel, and Site 2 - Former Service Station, a Phase 2 Environmental Site Assessment will be conducted prior to final design and commencement of any construction activities. The results of the Assessment will determine what remediation measures, if any, will be required.

Otherwise, mitigation measures will be the same for all four I-15 geographic sections. In the event that soil and/or groundwater contamination is identified, UDOT (or the construction contractor) will be required to complete a remedial work plan to clean up the site with approval from UDEQ and/or the Environmental Protection Agency.

For structures to be demolished, a pre-construction survey for building materials containing lead-based paint, lead, asbestos-containing materials, and polychlorinated biphenyls (often found in light fixtures) will be conducted and any such materials will be disposed of appropriately.

Unknown contamination could also be encountered during excavation, earthwork, drilling, grading, demolition, and utility work. The contractor will be required to abide by UDOT Standard Specification 01355 – Environmental Protection for the discovery of hazardous materials during construction or of any hazardous materials generated by the contractor. The contractor will be required to develop and implement a project-specific hazardous waste contingency plan prior to construction activities.

E.12 Water Resources

UDOT will be required to obtain a State of Utah Stream Alteration Permit (General Permit 40) and an individual Section 404 Permit from the USACE and to prepare specific design standards that ensure that the proposed project features (i.e., bridge abutments, footings, and other features in the floodplain) do not reduce the capacity of the channels upstream or downstream of the structures or increase channel erosion. During final design of the Preferred Alternative, UDOT will undertake hydraulic modeling. These analyses will consider the final engineering of highway structures and drainage facilities across the floodplains, and indicate appropriate drainage mitigation to be

implemented by UDOT, such as floodplain equalization culverts. UDOT will comply with local floodplain ordinances and permits.

Surface water conveyance structures will be designed and constructed to allow for the free movement of water to minimize increases in channel gradients, and to minimize concentrated discharges to waterways in the proposed project area. Types of surface water conveyances that could be implemented may include culverts, a series of small culverts, French drains, corrugated strip drains, synthetic drainage nets, and gravel layers.

A stream alteration permit from the Utah Department of Natural Resources, Division of Water Rights, will be required and obtained for the river and stream crossings that will result in a major stream alteration or modification. Stream alteration permits are generally combined with the USACE's Section 404 permit application to facilitate a streamlined permitting process.

UDOT will contact the operators of canals and other irrigation facilities before construction activities begin and will coordinate with the owners of these facilities to avoid or minimize impacts.

A storm water pollution prevention plan (SWPPP) will be prepared by UDOT or its contractors to comply with the required Utah Pollutant Discharge Elimination System (UPDES) permit. It will include measures to minimize potential for erosion or scour within the limits of disturbance and in local affected waterways. The SWPPP will focus on erosion-sensitive areas, sediment-sensitive areas, and control and precautionary measures to be followed. Other elements of the SWPPP will include a maintenance schedule of BMPs, drainage and culvert systems, pre- and post-construction hydrology, non-stormwater discharges, waste disposal, dust control, re-vegetation, and monitoring procedures. Applicable BMPs that will be implemented on the project site as part of SWPPP implementation will be selected from the developed standard UDOT construction BMPs and may include, but are not limited to, the following measures:

- Water pollution prevention control measures will be scheduled and implemented to correspond with ground-disturbing activities.
- Erosion control measures, such as erosion control blankets, fiber wattles, and berms, will be installed within 100 yards of all natural waterways.
- In-stream construction or diversion activities will be performed in the low-flow season.
- Only clean, granular material, rock, or aggregate will be used for the construction of temporary dikes or cofferdams, and permanent riprap.
- Waste disposal will occur according to federal, state, and county health and pollution control regulations.
- Repair or refueling of construction equipment will be performed at least 100 feet from surface waters.
- Turbidity levels in surface waters will meet EPA and UDEQ requirements through the implementation of measures including, but not limited to, brush or rock filters, silt fences, sediment traps, check dams, filter strips, sand bag barriers, or flotation silt curtains.
- Turbidity levels will be monitored frequently during in-stream construction activities. If an applicable federal or state turbidity requirement is exceeded, all construction activities will cease until the turbidity levels are less than the applicable standard.
- Activities with a high potential for causing sediment transport will not be performed during high runoff flows.
- Re-vegetation of areas disturbed by the Preferred Alternative will occur immediately after the completion of construction activities.

Selected BMPs will be used to prevent runoff from leaving the limits of disturbance. BMPs will ensure that no untreated run-off from bridges or other structures will drain into streams or rivers. Final selection of BMPs will consider input from UDEQ and the USACE.

In the event of any accidental spills of hazardous materials during construction, UDOT will be required to take immediate appropriate action. In accordance with UDOT Specification 01355, the contractor will notify the engineer

and UDEQ of spills of petroleum-based products or hazardous waste if the release meets the definition of a hazardous waste as defined in 40 CFR 261.

Measures to treat the water quality of stormwater runoff from the limits of disturbance will be implemented to remove oils, grease, sediments, and heavy metals. BMPs to treat water quality will be selected from UDOT's developed standard measures and may include vegetated filter strips, oil and water separators, outlet protection, and erosion control blankets. These measures will be implemented along the entire Preferred Alternative alignment. Final selection of BMPs will consider input from UDEQ and the USACE and will comply with the existing UDOT individual stormwater permit. The exact types of stormwater treatment system that will ultimately be installed as part of this project will not be determined until final roadway design. The design-build contractor will be responsible for determining final selection of water quality treatments. Long-term maintenance of these water quality treatment features will be performed by UDOT.

For impacted wells located in the limits of disturbance, UDOT will either purchase the groundwater rights from the owner or pay for a transfer of the rights.

E.13 Vegetation and Invasive Species

The re-vegetation of the I-15 right-of-way will mitigate for the loss of urban landscaping vegetation from I-15 widening and reconstruction in conformance with a landscaping plan. UDOT will specify that certified weed-free seed mixes used for landscaping and/or erosion control. Wetland re-vegetation will be included under the Clean Water Act (CWA) Section 404 permitting process.

Removal of riparian vegetation will be minimized, where possible. Vegetation along river corridors that are impacted by equipment or other construction activities will be replaced with native riparian vegetation.

During design/construction, UDOT will develop an Invasive Weed Control specification which identifies best management practices (BMPs) that will be used to control the introduction and spread of noxious weeds on disturbed sites along the right-of-way.

In compliance with Executive Order 13112, the Utah Noxious Weed Act, and subsequent guidance from the Federal Highway Administration (FHWA), the landscaping and erosion control included as part of the project will not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

A number of measures to avoid or minimize construction impacts on vegetation will be implemented during and after construction. Certain measures relate only to construction activities near environmentally sensitive areas such as wetland/riparian areas and floodplains, while others relate to upland site stabilization and re-vegetation, or final project design considerations. The measures related to construction include the following:

- Construction specifications will require contractors to prevent any unnecessary destruction, scarring, or defacing of vegetation in the work vicinity. Trees, shrubs, and other vegetation will be preserved and protected from construction activities and equipment, except where clearing and grubbing is required for fill, excavation, or other construction activities (e.g., retaining wall).
- Clearing and grubbing activities will be limited to that needed for project construction. All critical environmental areas including wetlands, riparian areas, stream corridors, and floodplains will be clearly delineated and marked with hazard fencing before the start of construction and avoided to the maximum practicable extent. Critical environmental areas will not be used for equipment, material storage, construction staging grounds and maintenance activities, or field offices.
- Excavated or graded materials will not be stockpiled or deposited near or on any waterways or wetlands outside the approved footprint.

- As soon as an area is no longer needed for construction, stockpiling, or access, final site stabilization and landscape restoration measures will be initiated. Any lands disturbed and not permanently occupied by project facilities will be graded to provide proper drainage, covered with topsoil stripped from construction areas or stockpiles, scarified as needed, and re-vegetated with a low-lying, grass-forb seed mix that will be less likely to attract wildlife into the highway right-of-way.
- Mulching or other comparable methods will be used as a means of controlling dust and erosion, and to aid re-vegetation efforts.
- When no longer required by the contractor, any temporary access roads will be graded to ensure proper drainage and erosion prevention, and made impassable to traffic. Temporary access road surfaces will be scarified to establish conditions suitable for reseeding or replanting and will be blocked from traffic to allow establishment of vegetation.
- To ensure successful plant establishment, permanent plantings will occur during the early spring and/or fall when precipitation is sufficient for plant survival. All plantings will be monitored by UDOT and the landscape contractor.
- During monitoring, any noxious weeds will be identified and controlled by UDOT and the contractor. If noxious weeds are identified during monitoring, preventative measures will be used to ensure that the landscape restoration program succeeds.
- A weed control management plan will be developed by the contractor and approved by UDOT prior to initiating construction. Measures to avoid the establishment and spread of noxious weeds will include at a minimum: (1) inspection and cleaning of all construction equipment, (2) use of weed-free seed mulches, topsoil and seed mixtures during landscaping and (3) use of eradication strategies in the event a noxious weed invasion occurs.

E.14 Wetlands and Waters of the U.S.

Although the Preferred Alternative is the least environmentally damaging, practicable alternative, adverse effects will result (Section 3.14). In addition to limited on-site mitigation, the wetland mitigation plan for this project will include use of a wetland mitigation bank that UDOT is currently developing with the USACE. Plans for the mitigation bank are not yet complete, but some of the known details are listed below:

- A Mitigation Bank Review Team (MBRT) has been formed consisting of members from USACE, EPA, USFWS, FHWA, DWR, and UDOT to oversee the development of a wetland mitigation bank in Utah County. The MBRT supports the wetland mitigation bank as a preferred approach to mitigate unavoidable wetland impacts.
- The bank will be developed to mitigate the various wetland types (wet meadow, marsh, shrub-scrub, and forested wetlands) impacted by the project and mitigate the wetland functions (hydrology, biogeochemistry, and flora and fauna) provided by those wetlands.
- Sites are currently being investigated near Utah Lake for their potential to be successful wetland banks and more details will be disclosed as soon as they are determined by UDOT, FHWA, and the USACE.
- The service area for the bank extends from the Utah/ Salt Lake County line to SR-75 in Springville.

In addition to compensatory mitigation, other protective measures include:

- Where wetlands are present adjacent to the limits of disturbance, UDOT will install protective fencing at the limits of the construction area, outside which all construction activities will be excluded. This will prevent incidental adverse effects on adjacent wetlands.

- In areas with shallow groundwater or areas that frequently carry surface water flows, UDOT will install culverts or other water conveyance structures to maintain existing hydrologic connectivity. This will avoid impacts on wetland hydrology.
- BMPs will be utilized during all phases of construction, including permanent BMPs after construction, including berms, brush barriers, check dams, erosion control blankets, filter strips, sandbag barriers, sediment basins, sheet mulching, silt fences, surface roughening, or diversion channels. These will reduce impacts from sedimentation and erosion.

The contractor will be required to comply with the conditions of the USACE Section 404 permit and UDOT Standard Specification 01574 Environmental Control Supervisor and 01571 Temporary Environmental Controls.

Many of the mitigation measures specified to protect water quality and vegetation during construction will also serve to protect wetlands. In addition, the following wetland protection and impact avoidance measures will be implemented:

- Before construction begins, wetland and riparian areas outside the limits of disturbance will be marked by perimeter environmental fencing to identify the no-work area.
- Free flow of waters into and across wetlands will be maintained by installing culverts at existing grade.
- Embankments, bridges, and culverts will be designed to minimize adverse impacts on wetlands, riparian areas, and drainages.
- When construction activities commence, administrative and environmental controls will be in place to ensure that wetland/riparian areas outside the limits of disturbance are not impacted.
- Erosion control measures will be used to ensure that sediment from construction areas does not reach wetlands, riparian areas, or streams.
- Any changes to the construction plans by either the contractor or UDOT will require review and approval by the appropriate State or Federal agency if there is the potential for impacts on wetlands or waters of the U.S. not previously identified.
- Contract specifications will ensure that all contractors are aware of Section 404 and Stream Alteration Permit conditions and of the various plans and measures developed to control and minimize wetland, riparian, and stream alteration impacts during construction. UDOT will monitor contractor activities to ensure all permit conditions are met.
- Restoration of temporarily disturbed wetlands will include rough grading, if necessary, and re-vegetation to approximate pre-project conditions.

E.15 Wildlife, Threatened and Endangered Species, and Special Status Plants

The Preferred Alternative design components that will minimize or mitigate potential wildlife impacts include those listed below. BMPs and other mitigation measures used for federally listed species will limit potential impacts to other sensitive species as well. Avoidance, minimization, and mitigation measures will include the following:

- The landscape concept for the reconstructed I-15 will include low-maintenance, low-wildlife-forage-value plant materials to avoid attracting wildlife to the I-15 right-of-way;
- UDOT will coordinate with USFWS prior to construction to determine if updated presence/absence surveys of Ute ladies'-tresses are needed;
- As practical, UDOT will time tree and shrub removal to occur during the non-nesting season of migratory bird species (approximately September 1 – April 30). If this is not possible, UDOT will conduct preconstruction surveys to determine whether active nests are present; active nests found in the area should be left untouched until the young have fledged;

- Raptor nests within the range of disturbance of project activities (refer to the FWS *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* [2002]) will be surveyed prior to construction activity if the construction will occur during the nesting season. If an active raptor nest is identified, UDOT will coordinate with FWS and/or UDWR to determine appropriate buffer distances and duration given the species and nest location.
- If bridge reconstruction must occur during the swallow nesting period (approximately May to July), existing nests will be removed prior to nesting occurring, and deterrence devices (such as tarps, netting, or Bird-X gel) will be employed to deter nesting.
- Minimize removal of riparian vegetation, where possible. Replace vegetation along river corridors that are impacted by equipment or other construction activities with native riparian vegetation, where appropriate, rather than containerized stock.

June Sucker mitigation measures include the following:

- As practical, confine construction activities that could impact spawning June Sucker at the Provo River crossing, to the August 1 through March 31 time period. These months are outside the spawning period, and will largely avoid any potential for adverse impacts on June Sucker. Any construction at the river crossing during the spawning period will be coordinated with USFWS.
- If necessary to encroach on the stream channel of the Provo River, Hobble Creek, or Spanish Fork River, temporary cofferdams will be installed outside the spawning period (April 1 through July 31) to enclose all construction activities to prevent escape of polluting sediments, oils, etc. All activities will be limited to the work areas created by the cofferdams.
- Construction activities in the Provo River, Spanish Fork River and Hobble Creek will not encompass more than two consecutive spawning seasons.
- Construction activities that involve any disturbance to the river waters or associated drainages will attempt to avoid creation of isolated pools or stranding fish within microhabitats.
- Where isolated pools are formed, the Division of Wildlife Resources or qualified personnel approved by the USFWS will be contacted to seine and remove any entrapped June Sucker.
- The BMPs listed in Section 3.12, this appendix, and the Biological Assessment will also offer protection to the June Sucker.

E.16 Cultural Resources

To comply with NHPA Section 106, consultation with the Utah SHPO regarding NRHP eligibility and effects resulting from a proposed undertaking is required through preparation of a DOE/FOE (see Section 3.16.1.5). Because this project will result in adverse effects and avoidance is not possible, a Memorandum of Agreement (MOA) has been prepared to outline responsibilities and measures to mitigate or reduce adverse effects. The ACHP, tribes, certified local governments and interested persons have been notified of the potential adverse effects have been invited to participate in development of the MOA. The MOA was signed May 15, 2008 and is in Appendix A.

Mitigation of adverse effects to the Provo Viaduct will document the bridge to Intensive Level Survey (ILS) standards, set but the Utah State Historic Preservation Office. Mitigation efforts will also document approximately 30 post-WWI bridges in Utah County, to the same standard. For the two historic properties in American Fork, mitigation will document the historic structure on each parcel to ILS standards.

If buried cultural resources, such as chipped stone, ground stone, historic debris, building foundations, or nonhuman bone, are inadvertently discovered during ground-disturbing activities, the contractor will follow the procedures detailed in UDOT's Standard Specification 01355, Part 1.13 (Discovery of Historical and Archaeological Objects). When unanticipated archeological resources are uncovered in a contractor-furnished site, the contractor will notify the UDOT region archaeologist, who will determine the appropriate action to pursue regarding the resource.

Buried human remains that were not identified during research or field surveys could be inadvertently unearthed during excavation activities, which could result in damage to the human remains. If human remains of Native American origin are discovered during ground-disturbing activities, it is necessary to comply with state laws relating to the disposition of Native American burials, following state regulation UCA 9-9-401, the Utah Native American Graves and Repatriation Act of 1992, and UDOT Standard Specification 01355, Part 1.13.

If potential paleontological resources are encountered before or during construction, the discovery procedures specified in UDOT Standard Specification 01355, Part 1.13, and Section G of the MOU between UDOT and UGS pursuant to UCA 63-73-19 will be followed.

E.17 Geology and Soils

Geotechnical investigations in accordance with UDOT requirements will be conducted as part of the design phase. The design of subsurface, pavement, and structures will be based on the recommendations of the geotechnical engineering analyses. The structures will be designed to meet seismic standards and specifications.

E.18 Construction Impacts

Mitigation commitments for environmental impacts from construction are documented above by resource.

Traffic Impacts

- Maintenance of Traffic (MOT) requirements will be incorporated into the construction specifications for the I-15 design-build contractor.
- An emergency services plan will be developed and updated through the construction period to ensure that fire, police and ambulance services are maintained and their mobility facilitated.
- A detailed public information plan will be developed, implemented, and updated prior to and throughout the construction period.
- A media relations and media information plan will be developed, implemented, and updated prior to and throughout the construction period to further facilitate dissemination of information.
- The development of the MOT plan, emergency services plan, public information plan, and media relations plan will be developed in consultation with county and local jurisdiction representatives.

E.19 Cumulative Impacts

There are no mitigation commitments specifically associated with cumulative impacts. The mitigation for the direct and indirect impacts will minimize any potential cumulative impacts in the region.

E.20 Energy

There will be no adverse impacts, so no mitigation is proposed.

THIS PAGE INTENTIONALLY LEFT BLANK